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1920

A Social Study along Health lines

OF THE

First Thousand Children.

EXAMINED IN THE

HEALTH CLINIC

OF THE

CANADIAN PATRIOTIC FUND

MONTREAL BRANCH



BY

Helen R. Y. Reid, B.A.

1920

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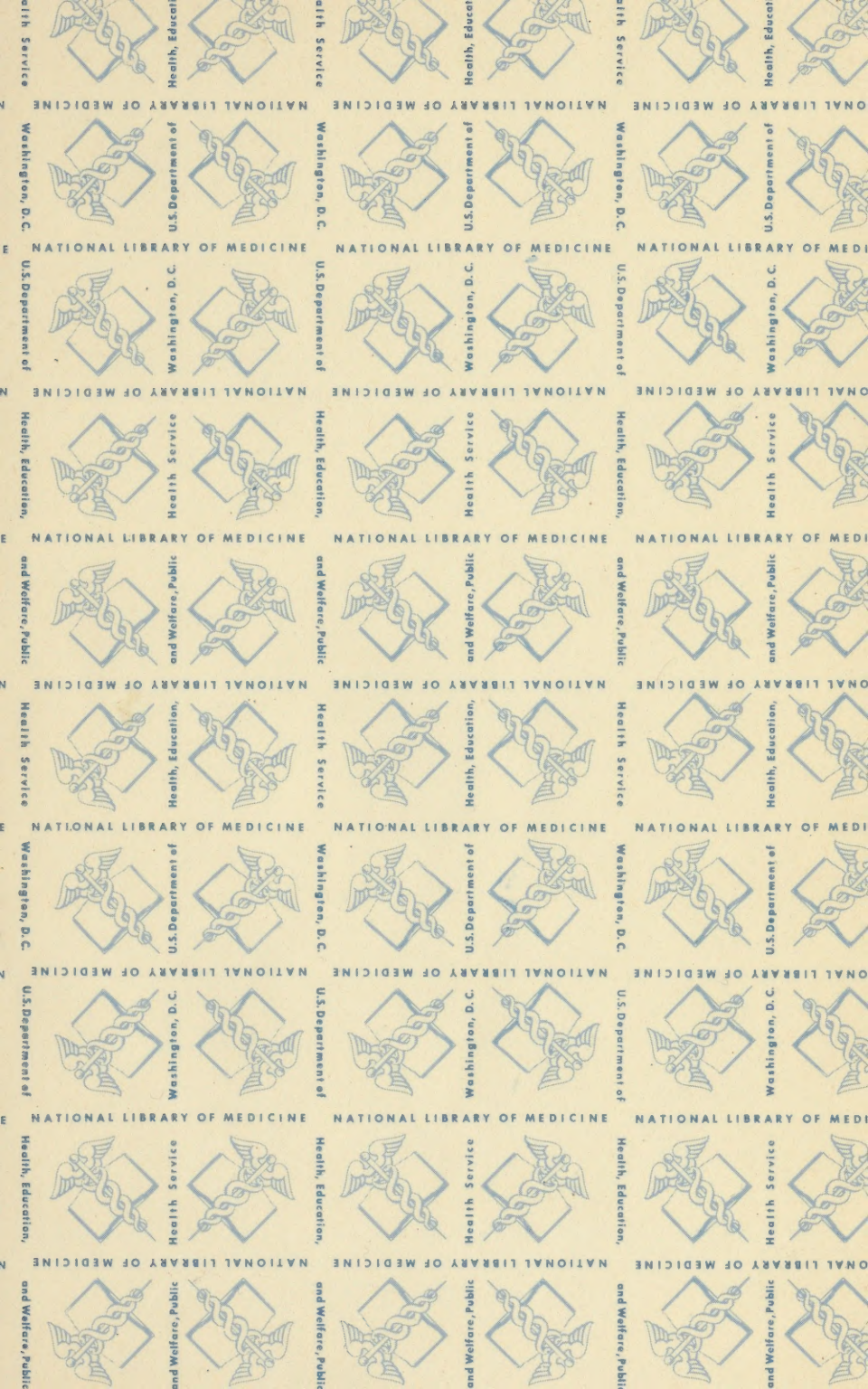
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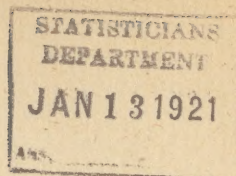


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ACKNOWLEDGMENTS

I have felt that the full benefit of the work done at our Health Clinic cannot be secured until our figures have been given to the public. The records of such a complete physical examination of Montreal children have never before been published. While they deal only with soldiers' families, they would probably apply to the majority of the scholars in the public schools. If more serious attempts at securing complete data of our school children should be one of the results of this study it will be a very satisfactory sequel to our efforts.

Acknowledgement is due the Children's Bureau, Washington, for the use of the charts on pages 35 and 39. To this Bureau and to many other American organizations we are also indebted for Child Welfare literature which we have distributed among our families.

It is a pleasure to acknowledge here and now the fine work and cooperation of the Clinic Staff in our Health Service for Soldiers' Children! Dr. W. A. L. Styles, as Clinic Doctor, Miss Bessie Scott, R.N. as Nurse in Charge, and Mrs. N. Rigg, as Assistant Nurse, have not only given their time and interest as regular officials of the Clinic, but have contributed their enthusiasm and sympathetic understanding throughout the first year of experiment in this new Division of the Fund work.

To Dr. Styles and Dr. A. B. Chandler I am indebted for the review of this paper before it was sent to the printer, and to Miss Scott, Mrs. Rigg, Mrs. Goold and Miss Robinson acknowledgement is gladly made for most of the statistical work included in the study.

The City Hospitals and their Social Service Departments have given the Fund most gratifying cooperation. The Victorian Order of Nurses, the University Settlement Baby Health Centre and the Provincial Red Cross have also been of definite, practical and helpful assistance.

Social Service students from McGill University and visitors from out of town, as well as from other city organizations, have expressed their approval of the work in no doubtful terms, which encouragement has been duly appreciated by the Staff and by

HELEN R. Y. REID, Director.

PART I.

"If we could grapple with the whole child situation for one generation, our public health, our economic efficiency, the moral character, sanity, and stability of our people would advance three generations in one."—*Herbert Hoover.*

OBJECT — SCOPE — PROCEDURE

The Patriotic Fund Health Clinic was started November 4th., 1919. Up to October 30th, 1920, 1260 children and babies belonging to ex-soldiers have been given complete physical examination in Clinic, and have been referred when necessary, for treatment, operation or special examination to the City Hospitals and Baby Health Centres.

The Need for Health Clinics for children is obvious to all social workers, Public Health nurses and doctors working among the poor of great cities and in rural districts. The note of Prevention was struck with ever increasing emphasis when the revelations of the war disclosed the numbers of recruits rejected as unfit for service on account of defects which might have been remedied in youth. Records also of infantile mortality showed, in a startling way, the depletion of the ranks of our future citizens, which, added to data given as to the approximate number unborn as a result of the war, raised a challenge which could not be ignored. Causes, such as poverty, ignorance and neglect, were shown to be in a large measure preventable. The economic loss to all nations demonstrated to "our legislators and councillors" the need for official as well as voluntary cooperation in waging the more profitable war against disease and for the cause of Health, national and international, on which is based the success, prosperity and happiness of the people. As a result—and compensating in some degree for the tragic folly of the war with its slaughter of the youth of the world — life-saving and health-saving measures have been inaugurated with zeal and enthusiasm on the part of both health officers and voluntary organizations. These have come perhaps more slowly in most parts of Canada than in England and the United States, but our program of peace time reconstruction cannot develop to a successful issue unless the Health of the nation is assessed at

its true value, and unless, as a result of this assessment, the necessary measures are taken to build up the coming generation by systematic, thorough and correlated measures for the removal of present defects, the prevention of possible disease and the formation of sound health habits in the babies and children of today—our citizens of tomorrow.

The **Object** of the Patriotic Fund Health Clinic was a double one. First, to furnish an opportunity for the establishment of good health for the children of our soldiers, as a practical and helpful recognition of their service for us during the war; secondly, to demonstrate to the community and the public at large the value of such work. Although only one year has gone by since the inauguration of the clinic, we feel that we are in a fair way to realize both objects. Soldiers and their wives already report to us the improvement noted in their children, both at home and in school, after operations and treatment and the establishment of some new health habits. These parents tell others, and already we have more requests for appointments than we can fill. Education in Health is, like education in everything else, a slow process. Persistent interest and work together with unflagging zeal and patience bring, however, a sure and rich reward. The second object, namely the educational demonstration to the public, has already borne fruit, as seen by the fact that two more branches of the Patriotic Fund, one in Sherbrooke, P.Q. and one in Hamilton, Ontario, have opened Health Clinics for Soldiers' children after visiting and studying the Montreal one. In addition to this, The Charity Organization Society of Montreal, accepted the offer of the use of our room, record forms and equipment and had about one hundred children belonging to their Mother's Aid Branch thoroughly examined. It is hoped that Children's Institutions, Hospitals, the Red Cross and other community organizations will soon establish similar clinics while waiting patiently for our legislators to recognize the fact that "these things shall be!"

The Patriotic Fund Health Clinic was fortunate at its inception in being given a good start through the kindness of the Victorian Order of Nurses and the University Settlement Baby Health Centre, both of whom provided temporary nurses, and through the gift of a small sum of money from the Provincial Red Cross to go towards equipment expenses. We are happy to report that the cooperative spirit shown at that time continues to exist.

At the outset of the venture, letters were sent out to soldiers' families notifying them of the opening and of the object of the clinic, and asking them to make appointments for their children. Printed notices were also very kindly dis-

tributed through the local Pension Board and Soldiers' Civil Re-Establishment offices. Appointments were also made daily in the Application Room of the Patriotic Fund. Our source of supply never fails, though appointments are not always kept with the regularity one could wish. Clinic is held at 2 o'clock on two afternoons weekly. Appointments by the hour are made for from twenty to twenty-five children in the expectation that fifteen to twenty will turn up. We examine from one hundred to one hundred and twenty-five children each month.

The Health Clinic for our soldiers' children has no Age limit. We welcome babies a few weeks old and grown girls and boys up to 18 and 19 years of age. The sole restriction governing the work is that those attending must be children, or brothers and sisters, of some soldier or ex-soldier. In our studies, however, we have kept our Babies' group separate. The ages covered in our 1000 children group vary from 2 years to 19 years. The average age was 7 and the median 6.

The **Record Form** in use was compiled to suit our needs from that used by Dr. Wm. R. P. Emerson, Boston, and that in use in New York in the Society for Improving the Condition of the Poor (see pages 8-9). It will undergo some slight improvements when there is occasion to have a new supply printed. The two record forms used for our babies under one or two years are obtained from the local Affiliated Baby Welfare Stations (English). As will be seen by referring to the form for children, the first column includes Family history, the individual child's medical history and certain social data bearing on the Health of the child. This information is obtained by a worker in the waiting room before the mother and child see the doctor. This saves the time of the latter and furnishes him with important information which is essential for a proper diagnosis and for subsequent counsel and instructions to be given. Supplementary information (see column 3) is also obtained on the diet of the child for each meal, hours at which meals are taken and the habits of the child in connection with eating. The worker obtaining this information instructs the mother in food values, and relative costs, and in food habits, which instruction is later followed up in clinic, in class and in the homes. While waiting for examination—and the waits are often long ones—the children are provided with books, toys and milk for their entertainment and comfort.

The **Child in Clinic** is partly undressed, boots and outer garments all being removed, and is then weighed and measured. Each child receives an individual blue printed card from the nurse in charge, which gives the actual height and weight and what the child should weigh.* On the back of the card, in

* Measurement Table based on work of Holt, Boas, Burks, Bowditch and Swedley.

HOSPITAL REFERENCE

For greater cooperation between the PATRIOTIC FUND and
MONTREAL HOSPITALS

CASE No. 7290 DATE Oct. 15, 1920

NAME OF PATIENT Jeanne R. AGE 3 years

ADDRESS 297c P. Street

IF FORMER PATIENT, HOSPITAL CARD No.

ABLE TO PAY—~~IN PART~~ ~~IN FULL~~—NOT AT ALL Refer to C.P.F.

REMARKS Submerged tonsils

Enuresis

Myocarditis

SENT TO Royal Victoria Hospital

BY PATRIOTIC FUND PER B. B. Scott

HOSPITAL DIAGNOSIS AND RECOMMENDATIONS

(Confidential) Hypertrophied tonsils and post nasal growth. Tonsil-
lectomy performed Nov. 23/20. Examined in Children's Clinic Nov. 19 20.

Nutrition fair. Lungs negative. Myocarditis.

RETURNED TO FUND BY S. S. Dept., R. V. H.

DATE Nov. 29, 1920

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8/14/47

P 8

Address _____ St., Verdun.

NAMES	Relationship to Child	Age	Health	Dead	
Julius	Father	55	Poor		
Eva	Mother	40	"		
Hilda	Sister	7		1900	Diphtheria
Mayland	Brother	22		1918	Killed in action
Oscar	"	18		1918	" " "
Iris	Adop. Sister	7			

Born at full-term? ☒ /

Labor? { Normal? ☒ /
Abnormal?

Months	Breast-fed?	Artificial Feed?
12		

1st Tooth at 6 mos Walked at 12 mos Spoke at 18 mos

Measles	1911	Chicken-pox	1912	Tonsillitis	1919
Mumps	1911	Rheumatism		Convulsions	
Scarlet-fever	1919	Meningitis		Chorea	
Diphtheria	1917	Pneumonia		Otorrhoea	
Whooping-cough	1912	Bronchitis		Operations	

Appetite	Good	Bed-wetting	No
Tea	No	Sleeping hours	10 p.m. to 7.30 a.m.
Coffee	Yes	No. in room	2
Constipation	No	No. in bed	2
Frequent colds	Yes	No. of rooms	6
Condition of Home, etc.	fair	Rent	\$14.50
			Income \$70.00
GENERAL HEALTH:	good	fair	Poor Yes
DAILY BRUSHING OF TEETH:	Yes		

Examiner Dr. Styles			Date June 4 1920		
INSPECTION: Bright ✓		; dull		nervous	apathetic
temper		phlegmatic			
DEVELOPMENT: Good		; fair		; poor ✓	
MUSCLES: firm		flabby ✓			
NUTRITION: Good		; fair		; poor ✓	
HEAD: Normal ✓		; abnormal		; measurement 21½ inches. Pediculosis	
EYES: Pupils equal ✓		Motion: nor. ✓		abnor.	
Blepharitis		Conjunctivitis ✓			
VISION TEST: right 20/20		left 20/20			
NARES: clear		crusted		discharge ✓	
MOUTH: Normal ✓		open		Herpes	Cough Mucous Memb. pale
cyanotic		normal ✓		Uvula: normal	abnormal
TONGUE: Normal		moist ✓		dry	white coat ✓
brownish		fissured ✓		ulcerated	tied
TONSILS: Normal Rt.		large ✓		buried	cryptic inflamed absent
THROAT: Normal		congested ✓		granular ✓	mucous ✓
GLANDS: Normal		enlarged ✓		epitrochlear	ant. cervical ✓ post cervical
TEETH: No. good 25		No. decayed 3		Approximation good poor ✓	
poor		stained		Alveolar abscess ✓	
EARS: Right drum, normal		perforated ✓		abnormal	cerumen ✓
Left drum, normal		perforated		abnormal	cerumen ✓
Hearing: normal		tinnitus		vertigo	
HEART: Apex at 4th		5th ✓		6th space in nipple line.	
inch outside nipple line		1 inch inside nipple line ✓			
Action: regular ✓		irregular		Rate	
Thrill: present		absent ✓			
MURMURS: absent ✓					
soft sys.		apex		tr. to { ant. axillary line	
loud sys. at {		pulmonic		mid. " "	
diastolic }		aortic }		angle of scapula	
LUNGS: Chest measurement		27½		inches at rest	
Resonance: normal ✓		impaired			
Respiration: normal ✓		abnormal			
ABDOMEN: normal ✓		large		lax distended tender tympanitic	
Hernia:					
Liver: dulness		space		rib to costal border nipple line.	
Spleen: palpable		not palpable			

GENITALS: normal ✓/		discharge		undescended testicle	
Prepuce: long		circumcised			
SKIN: Smooth ✓/	rough	clear ✓/	pigmentation	eruption	Scars
VACCINATION: last performed 1919		type of scar			
MENTALITY: Normal ✓/		abnormal			
SPINE: Normal		Lateral curvature: right ✓/		left	
Round shoulders ✓/		Winged scapulae ✓/			
CHEST: Normal	barrel	flat ✓/	funnel	pigeon	
Harrison's groove					
STATION: Good		poor ✓/	ARCHES: Normal ✓/		flat
WEIGHT: (stripped) 81 lbs.		Height	5 ft	1½	inches.
DIAGNOSIS:—Malnutrition 19%					
Conjunctivitis, Otitis media, subacute, Rhino-pharyngitis, Carious teeth, Alveolar abscess,					
Enlarged tonsil, Adenitis, Cerumen, Postural defects: Coffee addict.					

Dental Clinic	}	Hospital slips for all
Nose and Throat Clinic		Clinics given to Mont-
Posture Clinic		real General Hospital.

Naevus over right eye.

History of headaches and Migraine.

Has always been sickly and backward in school. In third grade, only.

DIET: Breakfast: Porridge, bread and butter, coffee.

Dinner: Average meal, Bread and jam, butter or marmalade, water or cocoa to drink.

Supper: meat and vegetables. Nothing for dessert. Never takes milk or eggs. Seldom cheese or any dessert.

French and English, are some simple health rules which each child is asked to follow in order to become strong, healthy and beautiful! The nurse in charge follows the doctor's examination of each organ (see Record form, column 2) and indicates the presence of the condition by ticking in ink thus $\checkmark$. In the third column under "Diagnosis" she enters the defects as they are disclosed, and under "Recommendations" instructs the second nurse to provide the mother with the necessary **Hospital reference** for each child if special treatment, examination or operation is advised by the doctor (see page 8). Hospitals are selected according to the Clinical facilities and the Social service provided, the language spoken and their location near the home of the family. The back of the Record form is used for subsequent notes by the nurse in charge after visits to the home, or when the children come again to clinic or to class, and also when the Hospital references are returned with information of operation performed or treatment given. If the child is a baby under two years of age, it is referred by letter to the nearest Baby Health Centre (see page 10), the address of which is given to the mother with full instructions as to the value of regular attendance. A small dispensary in the Clinic affords temporary relief when certain pills, salves or cough mixtures are needed for the children. Before the mother leaves the clinic she receives instruction from the doctor and nurse as well as Health literature of various kinds, according to the age and needs of her children and her ability to read and understand the simple advice given.

The work in the Clinic is accompanied by the study of the social case reports on file in the Patriotic Fund office proper, many of which date back to August 1914. It is supplemented by **Visits to the Homes**. One visiting nurse stresses the importance of removal of defects and urges sometimes unwilling and oftentimes ignorant, ill, weary and overworked mothers to make or keep the hospital appointments for the children. In many cases this nurse undertakes to accompany the children herself if she finds it is impossible for the mother or relatives to fulfil this duty. The Nurse in Charge specializes on the malnourished children and induces them to return to Clinic regularly to be weighed and measured, or to come to class, and in all cases urges them to keep up their Health habits in connection with eating, drinking, rest, fresh air, exercise, cleanliness and regular hours. The home visits of the nurses have proved a very important part of the work. By actually seeing home conditions and the relationship of the family in the home, the nurse is able to make reasonable demands along the lines of least resistance and to come into friendly and intimate contact with the parents and children. All kinds of parents have

CANADIAN PATRIOTIC FUND

PATRON H. M. THE KING

PRESIDENT HIS EXCELLENCY THE GOVERNOR-GENERAL

MONTREAL BRANCH RELIEF COMMITTEE

DRUMMOND BUILDING
ROOMS 315 TO 323
CORNER ST. CATHERINE & PEEL STS
PHONE UP 4405

*When replying quote date
of this letter and No.* CA-10980

Montreal, 23rd. July 1920
Iverley Settlement Baby Health Centre,
2, Richmond Square,
Montreal.

Dear Madam—

We beg to refer to you Mrs. Justine X, 157 Guy Street, who needs advice and follow-up care in connection with her baby Joseph. The child has been examined at our Health Clinic, and the Doctor's diagnosis and recommendations are given below.

May we have your cooperation in this case, and may we be assured that it will receive your prompt, generous and continuous attention?

Yours truly,

HELEN R. Y. REID,

DIAGNOSIS: Eczema of face: Gastro-Enteritis: Anaemia.

RECOMMENDATIONS: General follow-up care and instruction in health habits for mother and child: to be seen by B. H. C. Doctor.

to be met: weak, stern, selfish, ignorant and anxious; the willing mother but the father who doesn't believe in operations or hospitals; the sensitive mother who is hurt by the truth she learnt at Clinic and won't put up with delays attendant on Hospital service; the mother of many children who cannot leave her babies to take her older children to be treated; the mother who has had ten children with only two living, who knows how to bring up her family and won't be helped or instructed by a young woman who is not even married! These types and many others have to be met, informed, persuaded and helped, for without the home cooperation one cannot go very far in preventing trouble and in **establishing health habits** on which the future well-being of the children depend. Needless to say, much of the success of the work depends on the personality of the nurse. Without tact and patience, a love of children and a vision of the beauty and value of this service, a worker will not go far, however efficient and well-equipped she may be in other ways. We have been most fortunate in this respect, and much of the credit for the recognized service of the Clinic is due to our nursing staff.

The two nurses have made **1233 visits** during the year to **621 families**, in addition to attendance at Clinic twice a week, keeping up all Clinic records, writing reports of each visit for filing in the Fund records and keeping in touch with Hospitals, etc., in special cases. The Head Nurse, in addition, is in charge, two mornings a week, at our Woman's Clinic, and in the Nutrition Class on one afternoon. With more nurses, the follow-up work would, of course, be more intensive and complete. Many of our Fund families proper who are still in receipt of allowances under Post-War Regulations, are, fortunately, being called on frequently by the regular visitors of the Fund, who cooperate in every way along health lines to see that Clinic and Hospital instructions are carried out. During the year we have been able to record **312 operations** and 458 other cases under **treatment** at hospitals. Tonsil and adenoid operations numbered 254; circumcision operations 45. Eyes were treated in 264 cases and glasses provided in 87 (many were not reported). As the reporting of operations and treatments depends on both Hospitals and patients more than on the Clinic and the nurses, and as reports are not always sent in, we feel that the above record—not an unworthy one—is a decided understatement of what has really been accomplished in this field. In addition, it has to be remembered that large numbers of children examined within recent months have not yet actually got round to the Hospitals or to fulfil appointments made there for operation or treatment. That a lack of appreciation exists of the need and the benefit of

such preventive measures, is to affirm what is still sadly familiar to all health workers. An increasing number of voluntary calls at Clinic demonstrates, however, that the slow work of Health education is really progressing and that word is being passed from house to house and family to family that the Clinic is indeed a good thing as proved by personal experience. This is valuable testimony and the kind that carries most weight where it is most needed, namely, among the ignorant and unbelieving who are not restricted to any one social class. Records of results of Home and Clinic instruction in Health Habits are unfortunately of a kind difficult to obtain without weekly or bimonthly visits. These have not been possible with the present staff of nurses, 2. There is a great difference in knowing what to do and what not to do, and in the actual doing or not doing of it. And there is also an equally important difference in knowing what to do, and doing it regularly, until it has become a habit and can be performed unconsciously and automatically—Education in Health involves all such instruction. The time to learn Health Habits is in early youth. Opportunities for raising our national strength and happiness to a new and higher standard lie, therefore, almost altogether in the hands of parents and teachers, public health nurses, doctors and social workers who, by nature of their calling, come in contact from day to day with the baby and the growing child.

Student nurses in the Victorian Order of Nurses and students in the Social Service Department of McGill University have welcomed the privilege of visiting the Clinic for observation purposes in connection with their lecture course on "Child Hygiene". Students of the newly established School for Graduate Nurses, McGill University 1920-21, will also visit Clinic in 1921.

PART II.

"It is self-evident that a nation's greatness depends on the efficiency of its citizens, and that personal efficiency depends on a healthy body governed by a normal brain and nervous system".—*Terhune*.

CLASSIFICATION OF DEFECTS

For the further purposes of this study, we have taken the records of the first thousand children actually examined. The Table on page 14, alphabetically arranged, gives the name and number of each defect found in this group, making a total of 6,404 defects in the thousand children, an **Average of 6.4** per child. The Table on page 16, shows that only two children in the thousand were found free of defects; that one hundred and eighty-four, the largest group and therefore the Median, had each **seven** defects, the median giving perhaps a truer picture of prevailing conditions than the average of 6.4. The maximum number of defects—fifteen (15), was found fortunately in only one poor child, though fifty children had ten defects, twenty-five had eleven, seven had twelve, and three had thirteen. Our average and median are in excess of the averages found among school children in the United States and England. This may be due to the personal factor of interpretation on the part of the Clinic doctor, a well known pediatrician in Montreal, or it may indicate a greater prevalence of disease and defects in our Montreal children than that found in children in England or the United States. When comparisons are made, however, along general mortality and infantile mortality lines between our local and provincial records and those of some other provinces in Canada as well as those of England and the United States, the inference is borne out that our children have not had as good care and as favourable health opportunities as the others referred to, and that the incidence of defect indicated is doubtless reliable when applied to Montreal children in general. This knowledge should surely challenge us to prompt and thorough grappling with the problem of prevention of disease and defect, the promotion of health and the consequent mitigation of child suffering within our midst.

REPORT OF THE FIRST ONE THOUSAND CHILDREN EXAMINED IN THE CANADIAN PATRIOTIC FUND HEALTH CLINIC.

The following defects were found in the children examined, most of whom were presumably well children.

[illegible]

REPORT OF THE FIRST ONE THOUSAND CHILDREN EXAMINED IN THE CANADIAN PATRIOTIC FUND HEALTH CLINIC.

(Continued)

	1st 100	2nd 100	3rd 100	4th 100	5th 100	6th 100	7th 100	8th 100	9th 100	10th 100	Total
<i>Brought forward....</i>	000	000	000	000	000	000	000	000	000	000	000
Icthyosis.....	1	1	0	2	0	0	0	0	0	1	5
Intertrigo.....	0	0	0	0	1	0	0	0	0	0	1
Impetigo.....	3	3	0	0	0	0	0	0	2	1	9
Inf. Rheumatism.....	0	0	0	0	0	0	1	0	0	0	1
Laryngitis.....	0	0	0	0	0	1	0	0	0	0	1
Malnutrition.....	49	36	31	18	21	22	39	29	29	25	299
Mental Defect.....	3	0	1	0	1	3	0	1	0	1	10
Neurasthenia.....	0	0	0	0	0	0	0	1	0	0	1
Otitis Media.....	30	26	38	41	31	37	32	25	28	22	310
Onychia.....	1	0	0	1	0	0	0	0	0	0	2
Pyogenic inf.....	0	0	0	0	0	0	0	0	1	0	1
Potts' disease.....	0	1	0	0	1	0	0	0	0	0	2
Posterior Synechia.....	0	0	1	0	0	0	0	1	0	0	2
Postural defects.....	35	71	77	64	69	81	76	76	74	79	702
Phimosis.....	10	10	4	7	14	6	5	4	4	7	71
Pediculosis.....	41	33	27	24	25	29	27	26	32	27	291
Pharyngitis.....	68	54	62	66	59	63	61	52	43	68	596
Pavor Nocturnus.....	0	1	3	2	4	1	0	0	5	2	18
Ptoxis.....	0	0	1	1	2	0	0	0	0	0	4
Pin Worms.....	0	0	1	0	0	0	1	0	0	0	2
Psoriasis.....	0	0	0	0	0	0	1	0	0	0	1
Ringworm.....	0	1	0	1	0	0	0	0	0	3	5
Rhinitis.....	45	39	12	14	17	24	24	17	17	22	231
Rigg's disease.....	0	0	0	3	0	1	0	0	0	0	4
Strabismus.....	9	5	8	6	11	9	6	5	9	8	76
Syphilis.....	0	1	0	0	0	0	0	0	0	0	1
Scabies.....	0	0	0	4	5	0	2	2	2	0	15
Somnambulism.....	0	0	0	2	0	0	0	1	0	1	4
Scarlatinal nephritis.....	0	0	0	0	1	0	0	0	0	0	1
Scar tissue.....	0	0	0	0	0	0	1	0	0	0	1
Sexual precocity.....	0	0	0	0	0	0	1	0	0	0	1
Tonsils, diseased.....	55	37	50	53	47	66	54	56	52	59	529
Thyroid enlargement.....	0	0	1	3	1	0	3	0	0	1	9
Tuberculosis.....	0	4	0	1	0	0	0	0	0	0	5
Tape Worm.....	0	1	0	0	0	0	0	0	0	0	1
Tongue Tied.....	0	0	0	0	1	0	0	0	0	0	1
Talipes equinovarus.....	0	0	0	0	0	0	0	0	0	1	1
Undescended testicle.....	0	0	0	0	0	0	0	0	1	0	1
Vaginitis.....	1	0	1	0	0	2	0	0	0	0	4
Visceroptosis.....	18	10	21	12	11	18	16	7	13	9	135
Whooping Cough.....	0	0	0	2	0	1	0	0	2	0	5
Warts.....	0	0	0	0	0	0	0	0	1	0	1
	661	547	605	581	660	728	691	601	635	695	6404

TOTAL DEFECTS

1st 100	2nd 100	3rd 100	4th 100	5th 100	6th 100	7th 100	8th 100	9th 100	10th 100	Total	
0	0	0	0	0	0	0	0	2	0	2	Children had 0 defect.
1	2	1	3	4	0	0	1	0	0	12	" " 1 "
5	2	3	4	2	1	3	5	5	3	33	" " 2 defects.
7	14	5	4	2	1	4	8	5	2	52	" " 3 "
7	14	14	11	16	6	3	8	7	10	96	" " 4 "
13	18	22	18	10	12	18	15	18	10	154	" " 5 "
13	23	19	19	8	13	13	21	15	13	157	" " 6 "
17	13	13	26	20	21	20	16	15	23	184*	" " 7* "
14	6	10	10	16	19	16	19	16	17	143	" " 8 "
10	5	4	3	10	14	12	3	6	14	81	" " 9 "
9	2	5	1	6	9	5	2	7	4	50	" " 10 "
1	1	2	1	6	3	5	2	3	1	25	" " 11 "
3	0	2	0	0	0	1	0	1	0	7	" " 12 "
0	0	0	0	0	1	0	0	0	2	3	" " 13 "
0	0	0	0	0	0	0	0	0	0	0	" " 14 "
0	0	0	0	0	0	0	0	0	1	1	Child " 15 "
100	100	100	100	100	100	100	100	100	100	1000	

* Median

The defects found were neither exaggerated nor fanciful. Analysis of the table confirms this. Throat obstructions, destructive processes in eye or ear, are all real things. Pathological conditions such as heart disease, Potts' disease, epilepsy, etc., endanger the life of the child, and contagious infections such as pediculosis, intestinal parasites, scabies, whooping cough and vaginitis are diseases from which all well children should be protected.

The largest Defect groups in our series are: 1. **Nasopharyngeal**, including adenoids (34), deviated septum (1), pharyngitis (596), rhinitis (231), and diseased tonsils (529), a total of 1,391 defects. 2. **Muscular affections**, including gastroptosis (2), visceroptosis (135), ptosis, (4), hernia (inguinal umbilical, ventral) (98), postural defects (702), a total of 941. 3. **Ear affections**, covering cerumen (461), otitis media, (310), deafness (1), a total of 772. 4. **Glandular affections**, including adenitis (760), thyroid enlargement (9), a total of 769; 5. **Diseases of the teeth and gums**, covering alveolar abscess (31), carious teeth (661), gingivitis (4), Rigg's disease (4), a total of 700. 6. **Eye affections**, including blepharitis (24), blindness (2), conjunctivitis (379), corneal ulcer (1), defective eyesight (57), dacrocystitis (1), strabismus (76), a total of 540; 7. **Constitutional disorders**, including acne vulgaris (7), arthritis (1), anaemia (7), eczema (140),

furunculosis (1), posterior synechia (2), heart disease—functional and organic (76), haemophilia (1), inflammatory rheumatism (1), **malnutrition** (299), pyogenic infection (1), psoriasis (1), syphilis (1), **a total of 538**; 8. **Parasitic diseases**, including pediculosis (291), ring worm (5), tape worm (1), pin worm (2), scabies (15), **a total of 314**; 9. **Genito-urinary affections** including phimosis (71), vaginitis (4), enuresis (138), **a total of 213**.

Referring to the largest group, the **Naso-pharyngeal**—(see table on page 17), of 851 children with 1391 defects, we may note the findings of Dr. Thos. D. Wood, Chairman of the Committee on Health Problems of the National Council of Education, New York. Among the possible injurious effects resulting from adenoids he quotes the following:—"Narrowing of upper jaw, deformity of chest, disturbed development of teeth and vocal organs, large tonsils, mental disturbances, deafness, defects in smell, taste and voice, chronic catarrh, obstruction of air passages with open mouth and restlessness at night, headache, cough and hoarseness, croup, bronchial asthma and enuresis, with malnutrition and anaemia, under-development, predisposition to other diseases such as tuberculosis, diphtheria, scarlet fever as well as to middle ear disease, laryngitis and intermittent colds. Enlarged or diseased tonsils produce many

Kind of Disease or Defect	Total number of Defects	Number of Children affected	Percentage
1. Naso-pharyngeal	1391	851	85 %
2. Muscular	941	769	77 %
3. Ear	772	616	61 %
4. Glandular	769	761	76 %
5. Teeth and Gums.....	700	694	69 %
6. Eye	540	489	49 %
7. Constitutional	538	457	45 %
8. Parasitic.	314	306	30 %
9. Genito-Urinary	213	199	20 %
10. Respiratory.....	134	126	12 %
11. Nerves.....	45	44	4 %
12. Skin.....	27	26	2 %
13. Bone	7	7	.07 %
14. Alimentary.....	2	2	.02 %
15. Congenital	5	5	.05 %
16. Contagious	5	4	.04 %

of these unfavourable results and increase susceptibility to tonsillitis, quinsy, rheumatism, pneumonia and other forms of infection". (6)

The second group, that of the **Muscular Affections**, 769 children with 941 defects, calls for early and regular attention in order to prevent postural defects from becoming chronic and real spinal curvature from developing. Proper feeding and exercise will help to improve the condition of children suffering from visceroptosis, while treatment or operation for hernia may prevent great trouble in the future for the child, involving, as rupture does, serious and often dangerous weakness of the abdominal walls.

Our third largest group of defects or abnormalities is that of the **Auditory System**, 616 children with 772 defects. Catarrh of the middle ear often leads to mastoid disease. Norsworthy and Whitney of Columbia University, New York, state that 20 per cent of American school children are defective in one or both ears. They make the comment that "while the results of ear defects may not be so severe on the nervous system as eye strain, they certainly interfere with perception and therefore with knowledge" (5). Children who do not hear quite well, develop slowly and seem dull because they do not get the full class instruction at school. They are often considered stupid and queer, and if the defect is not discovered, and remedied when possible, they may grow up anti-social as well as sub-normal both physically and morally.

761 children with defects of the **Glandular System** (4) furnish us with 769 defects. These are closely associated with those of the Naso-pharyngeal group (see above).

The fifth largest group of defects, 700, is that of the 694 children with "bad" **Teeth and Gums**. Osler says:—"If I were asked to say whether more physical deterioration was produced by alcohol or by defective teeth, I should unhesitatingly say defective teeth. In some schools as many as 98 per cent of pupils have defective teeth. From 50 to 75 per cent of all school children in this country need, at this moment, dental care" (7). Dr. Wood estimates that 34 to 48 per cent of school children in the United States are suffering with diseases of the teeth and gums. (6) which is less than the estimate given by Norsworthy and Whitney. viz. 60 to 96 per cent (5). The excruciating pain from toothache causes great loss of time and rest with consequent nerve strain. Dr. Wood cites among the direct effects of defective teeth "unsightly and inflamed mouth with foul breath, improper mastication of food, extension of decay to sound teeth, infection of glands and jaw bone, earache and deafness, headache and disturbed vision, digestive disturbance with indirect effects of poor nutrition,

lowering of vitality and resistance to disease, formation of culture bed for pathogenic germs which, with lowered resistance, leads to increased frequency of infection with possible danger to life." (6)

Four hundred and eighty-nine children with **Eye defects** to the number of 540, form our next largest group. Symptoms of eye trouble include complaints of headache, especially towards the end of school time, holding the head too near the book, temporary deviation of either eye from the normal position and imperfect sight of common near-at-hand objects and people. The suffering which is attendant on eye strain affects the nervous systems to an alarming extent. Some medical authorities attribute epileptic and epileptiform seizures to abnormal eyes. Convulsions occur in a few cases. The injurious effects more commonly recorded include nervous exhaustion and lack of control, headache and nausea with consequent digestive disturbance and malnutrition, slow mentality and possible backwardness at school because of lack of visual understanding.

The seventh largest group of defects classified as **Constitutional disorders**, 538, refer to 457 children and include, as noted, 76 cases of heart disease and 299 of malnutrition. Dr. Wood's remarks on abnormal conditions of the heart may well be quoted in this connection. He says that such conditions "even if temporary, may disturb health, and if neglected may result in permanent weakness of the heart itself or of the body in general. The condition of the heart is always an important index of the health condition, and is often a valuable guide in adjusting the amount of sleep, arrangement of school program, and selection of muscular exercise which is most suitable for the pupil." (6). For remarks on **Malnutrition** see page 22.

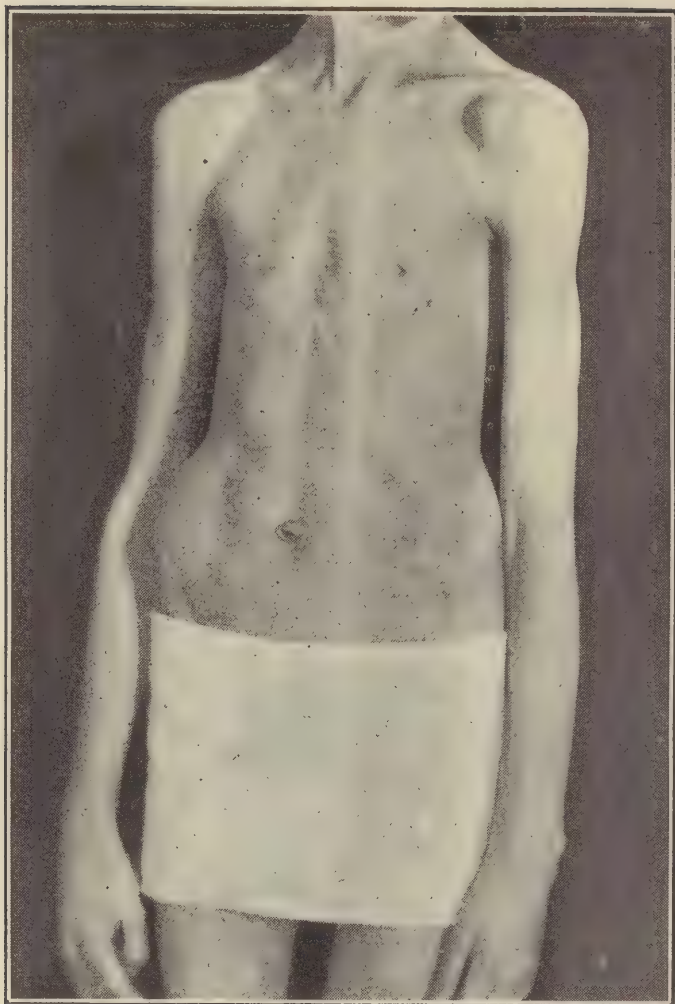
The eighth and last large group of defects to be noted is that of 314 cases of **Parasitic Diseases** among 306 children, including 291 cases of pediculosis, 15 of scabies and 8 of worms. These are all contagious, uncomfortable, unhealthy and disgusting diseases. Well children should not have to suffer contact, as they now do, with children who are thus affected. Removal of the trouble is in each case possible, and only requires understanding, decision and action on the part of both teachers and parents. No item in all the wonderful measures for health care of the soldiers in the trenches is more significant than the systematic treatment of their bodies and clothes at frequent intervals to rid them of the troublesome and dangerous parasites which abounded in their midst. Shall not our children receive as good care in this respect as our soldiers on service at the front?

The small group of **Nervous affections**, 45, among 44 children, covers ten conditions, many of which may be symptomatic of other primary troubles; for instance, "night startles", somnambulism and convulsions may be indications of abnormal eyes, defective teeth, malnutrition or bad health habits. Unless these causes are removed and the defects remedied, grave trouble is in store for the child in the future. Norsworthy and Whitney claim that 5 per cent of the American school children are neurotic and that 1 per cent of these have chorea frequently in the spring months,—that this is more frequent with girls than boys and occurs most often between the ages of 8 and 15 years. (5) Full cooperation of parents is necessary in order to effect the needed changes and to get children to take proper food at frequent intervals, to prevent over-fatigue and to establish sufficient home control to ensure good health habits. A reference to the Tea and Coffee Table, see page 20, has some significance in connection with the question of nervous affections among children. Seven hundred and nineteen of our 1000 children drank tea and 199 coffee. The distribution of food literature and the never-ending instruction in clinic and home to substitute milk, cocoa and water for these stimulating and non-nourishing beverages has borne fruit in countless numbers of cases, many of the children shaking hands with the doctor on their promise to give up drinking tea and coffee, and many mothers reporting better sleep and health as a result of the new system.

The 10 mental defectives found bears out exactly the 1 per cent mental defectives found by Dr. Wood among American children, though his later examination does not give quite such a high percentage viz.—.8 per cent for country school children and .2 for those in cities (6). Norsworthy and Whitney find that 30 to 35 per cent of the school children in the United States are **retarded** one year or more, and that boys show this more frequently than girls (5). Our findings bear out their statement that the physical characteristics of aments show a greater prevalence of stigmata of degeneration, — physical defects, — than do those of children of higher intelli-

	1st 100	2nd 100	3rd 100	4th 100	5th 100	6th 100	7th 100	8th 100	9th 100	10th 100	Total
Tea Drinkers.....	67	70	84	73	70	54	66	79	86	70	719
Coffee Drinkers.....	14	27	39	32	16	22	12	15	12	10	199
	81	97	123	105	86	76	78	94	98	80	918

MALNOURISHED CHILD



This child is 10 years and 8 months old, measures 4 feet 8 inches, is tall for her age and is 21.5 pounds or 25% underweight for her height. She has eight defects, including carious teeth, enlarged tonsils, chronic suppurative otitis media, marked postural defects. She drinks tea, "picks" her food and is anaemic.

MALNOURISHED CHILD



This child is not underweight for height, but she is 4.2 inches under the average height for her age. The lax, prominent abdomen, the flaring scapulae, the narrow contracted chest, all are part of the typical posture of the malnourished child. She is 9 years 2 months old, has carious teeth, enlarged tonsils and adenoids, has a poor appetite, drinks coffee and keeps late hours. There are also faulty diet and faulty health habits to remove.

gence. Our records show that our 10 mental defectives had in all 89 defects, the largest number for any one being 12. This percentage, 8.9, varies notably from our average 6.4 or median 7 among mentally sound children. No mental tests were made of possibly retarded or backward children. No records were kept of **advanced** children, of whom we are told there are 4 per cent among American school children who are two years above their mental age. While much study is being given by Mental Hygiene and Educational Committees to backward or retarded children, special classes being arranged for them, little or nothing seems to have been done for the advanced child, who would be a tremendous asset to the nation if given opportunity, which is sometimes economically and socially denied him. We need prophets, saints and martyrs in this day of materialistic adventure, but we also need scientists, poets and artists of genius for the future health of our spirit, soul and mind! Who is going to open the door of Opportunity for the advanced child? Norsworthy states that "records show that children who have advanced in school work are more often than not taller and heavier than the average for their age; they maintain their lead, finish earlier and occupy good positions in life" (5). Superior hereditary endowment is quoted as the cause in 90 per cent of these cases. Without the help of opportunity and of good environment, however, we need not expect to get the best from our supernormal children or to get brilliant results from any of them who do not get their chance.

PART III.

"To be habitually 7% underweight is to be retarded at least one year in development."

—Dr. Wm. R. P. Emerson.

MALNUTRITION — GROUP OF 299 CHILDREN

Besides many cases of poorly nourished children, the Clinic records show 299 children whose weight was at least 7% less than what it should be for their height. David Mitchell of the New York Bureau of Educational Experiments, says of this class of child:—"Clinical experience has led us to the conclusion that a child who is chronically 7% or more underweight might be considered an ill child". (1) A result of a cooperative experiment covering four months in 1918, and 894 children of different school grades in New York City, is reported by Dr. Mitchell as indicating that 16.8% of the entire United States school population are 7% or more under the weight which they should be for their height. This means that in New York City, with approximately 1,000,000 school children, 168,000 are undernourished. Dr. Thomas D. Wood of Columbia University, New York City, records 20% of American School children as malnourished—this being based on a study of 22 million children in 1918. In a later study based on reports of over half a million city and country children, Dr. Wood estimates that 16.6 rural school and 7.6 city school children are undernourished. (6)

Dr. Wm. R. P. Emerson says:—"Extended studies have shown conclusively that at least one-third of the children in the United States of school and pre-school age are sufficiently underweight for their height as to require treatment for malnutrition" (4).

The apparent agreement of Dr. Wood and Dr. Mitchell as against the number, almost double, quoted by Dr. Emerson cannot lessen the truth of the fact that malnourishment is prevalent as an actual illness in hundreds of thousands of children in the United States. Without similar extensive and intensive surveys to guide us in Canada, no accurate conclusions can be drawn for national application here. The inference, however, is plain that similar poor conditions do exist in connection with our children of school and pre-school age. The number of malnourished children recorded in our group of 1000, namely 299, approximates more closely to Dr. Emer-

son's 33-1/3 per cent than to the lower estimates of Dr. Wood and Dr. Mitchell.

Malnutrition is certainly a fundamental handicap. As stated by Norsworthy and Whitney:—"It affects height and weight, interferes with general development, delays puberty, lowers vitality, making every child susceptible to infections with less chance of recovery and more chance of relapse. It is likely to precede tuberculosis, to produce rickets, and it retards mental development, as two or three times more cases of malnutrition are found in retarded mental cases than in normal mental cases." (5).

The causes leading to malnutrition are generally many in number and kind, and include the presence of carious teeth or diseased tonsils, insufficient diet, wrong kinds of food and badly prepared food, bad food habits such as irregular and hurried meals, the use of stimulants such as tea and coffee, lack of sleep and insufficient rest, fresh air and exercise; overwork and excitement or worry, and previous diseases (whooping cough, measles, etc.). Many cases of malnutrition are found among the children of the well-to-do, this being due to the ignorance and carelessness of both parent and child as to the desirable conditions under which food should be taken. Dr. Julius Levy of the New Jersey State Board of Health gives his findings on "The undernourished child of pre-school age" in the following suggestive remarks:—"To sum up I would say that malnutrition in the child of pre-school age is largely the result of improper care and feeding in the first year of life. Secondly, that it is the result of unnecessary and improperly managed contagious diseases, and thirdly, that it requires for its cure more the application of the rules of hygiene, nutrition, discipline and training than it does the administration of drugs and medicines." (8). The **symptoms** of malnourishment are loss of weight and height, overheight, indigestion, flabby muscles, decayed teeth, pale skin with dark circles round the eyes, fatigue, irritability.

The illustrations of two of our malnourished children are typical of many other cases, (pages 20-21). Such children, when dressed, often pass muster. It is only after weighing and measuring, and after full physical examination that the seriousness of the conditions found is fully realized. The first little girl looks fairly well when she is dressed, except that she has the serious expression of countenance which the malnourished child usually presents. She is 10 years and 8 months old, 4 feet 8 inches, tall for her age, and is 21.5 pounds underweight for her height, or 25%. She has eight defects including carious teeth, enlarged tonsils, chronic suppurative otitis media, marked postural defects. She drinks tea, "picks" her food and is anaemic. The second child is not underweight

MALNOURISHED CHILDREN GROUPED SEASONALLY WITH RE-
LATED DEFECTS:—NOV., DEC., JAN. & FEB., 134; MAR., APRIL,
MAY & JUNE, 82; JULY, AUG., SEPT. & OCT., 83; TOTAL, 299.

Malnutrition	Naso- Pharyngeal	Ear	Teeth	Muscles	Malnutrition	Naso- Pharyngeal	Ear	Teeth	Muscles	Malnutrition	Naso- Pharyngeal	Ear	Teeth	Muscles
1	x			x	51	x		x4	x	101		x	x5	x
2	x		x3	x	52	x			x	102	x	x		x
3	x	x	x3	x	53				x	103	x		x4	x
4	x	x	x1	x	54		x		x	104	x	x	x8	x
5	x	x	x1		55	x				105	x	x	x4	
6	x	x	x2		56	x	x		x	106	x	x	x2	x
7		x	x8	x	57	x	x		x	107	x	x		x
8	x				58	x	x		x	108	x			x
9	x				59	x		x3	x	109		x	x2	
10	x				60	x	x		x	110	x	x		x
11	x	x	x2	x	61				x	111	x		x3	x
12	x		x8		62	x	x		x	112	x			
13	x	x	x8		63	x	x	x3		113	x		x8	x
14	x	x	x2	x	64		x	x3	x	114	x		x4	x
15	x	x		x	65	x		x3	x	115	x		x9	x
16	x		x8		66	x	x	x3	x	116	x			
17	x	x	x2	x	67	x	x		x	117	x	x	x4	x
18	x	x	x3		68				x	118	x		x3	x
19	x	x	x9		69				x	119	x			
20	x	x			70	x		x11	x	120	x	x	x8	x
21	x				71	x				121	x	x	x4	x
22	x		x3	x	72		x	x5	x	122		x	x10	x
23	x	x	x7		73	x			x	123	x	x		x
24	x	x	x8		74	x		x3	x	124				
25	x		x9	x	75	x		x6	x	125	x		x4	x
26	x	x		x	76	x	x	x11		126	x		x2	x
27	x	x	x3	x	77	x	x	x7	x	127	x	x	x2	x
28	x	x	x4	x	78	x			x	128	x		x8	x
29	x	x	x6		79	x	x		x	129	x		x2	x
30	x	x	x4	x	80	x	x		x	130	x		x3	x
31	x	x	x4	x	81	x		x3	x	131				x
32	x		x6	x	82	x	x	x3		132	x		x11	x
33	x	x	x3	x	83	x		x2	x	133	x		x4	
34	x	x	x7	x	84	x		x4	x	134		x		
35	x		x5	x	85	x	x	x4	x					
36	x	x	x1		86	x	x	x5	x	135			x3	x
37	x		x2	x	87	x		x2	x	136	x	x	x6	x
38	x		x5	x	88	x			x	137		x	x	x
39	x	x	x6		89	x		x6		138	x	x	x2	
40	x	x		x	90	x		x3	x	139	x	x	x7	x
41	x	x	x7	x	91	x	x	x7		140	x	x		x
42	x	x	x3	x	92			x3	x	141	x	x	x1	x
43	x		x6		93	x	x	x3	x	142	x	x	x2	x
44	x				94		x			143	x			
45	x	x	x2	x	95	x	x	x12	x	144	x	x	x8	x
46		x			96	x		x5	x	145		x	x4	x
47		x		x	97	x			x	146	x		x4	x
48			x6	x	98	x	x	x8	x	147			x3	x
49	x				99	x	x		x	148	x	x	x3	x
50	x		x4		100	x	x		x	149	x		x6	x

MALNOURISHED CHILDREN GROUPED SEASONALLY—*Continued*

Malnutrition	Naso- Pharyngeal	Ear	Teeth	Muscles	Malnutrition	Naso- Pharyngeal	Ear	Teeth	Muscles	Malnutrition	Naso- Pharyngeal	Ear	Teeth	Muscles
150	x	x		x	202		x	x2	x	253	x		x4	x
151	x			x	203	x		x5	x	254	x		x4	x
152	x	x	x3	x	204	x	x			255	x	x	x2	x
153	x			x	205	x	x			256	x	x		x
154	x		x7	x	206	x				257	x	x	x1	x
155	x	x	x3	x	207		x		x	258	x		x6	x
156	x	x	x5	x	208	x		x3		259	x		x2	x
157	x	x		x	209	x	x	x8	x	260	x	x	x6	x
158			x8	x	210		x	x	x	261	x			x
159	x	x	x8	x	211	x	x	x3	x	262	x	x		
160	x		x13	x	212	x	x	x	x	263			x3	x
161	x		x2	x	213	x	x	x8		264		x	x5	
162		x		x	214	x		x2	x	265		x		x
163	x	x	x2	x	215	x	x	x8	x	266	x			x
164	x		x3		216		x		x	267	x	x	x3	x
165	x	x		x						268		x	x2	x
166	x	x	x3	x	217	x	x	x9	x	269		x	x2	x
167	x	x	x3	x	218	x	x	x8	x	270		x		x
168	x	x		x	219	x	x	x8	x	271			x1	x
169	x	x	x4	x	220			x4	x	272		x	x3	x
170	x		x		221	x	x	x1	x	273	x	x	x8	x
171			x2	x	222	x		x8	x	274	x	x	x11	x
172	x	x	x5	x	223	x	x		x	275				x
173	x			x	224		x	x2	x	276	x	x	x4	x
174		x	x7	x	225	x	x	x2	x	277	x			
175	x	x	x1	x	226	x	x		x	278	x	x	x6	x
176			x	x	227		x	x3	x	279	x		x2	x
177	x		x	x	228		x	x10	x	280	x			x
178	x	x		x	229	x	x		x	281	x	x	x2	x
179	x			x	230		x	x2	x	282	x		x2	x
180	x	x		x	231	x	x		x	283	x		x2	x
181	x		x4	x	232	x		x2	x	284	x		x3	
182	x	x	x4	x	233	x		x5	x	285	x		x2	x
183	x	x	x4	x	234	x	x	x1	x	286	x	x	x6	x
184	x		x3	x	235	x		x2	x	287	x	x	x4	x
185	x	x	x13	x	236	x		x2	x	288	x			x
186				x	237			x2	x	289	x	x	x12	x
187		x	x3	x	238	x	x	x4	x	290	x	x	x7	x
188	x		x2	x	239	x	x	x2	x	291	x	x		x
189	x		x8	x	240	x		x1		292	x	x	x2	
190	x	x	x8	x	241		x		x	293	x			x
191	x		x6	x	242	x	x	x5	x	294	x	x	x6	x
192	x		x5	x	243	x	x	x2	x	295	x		x3	
193	x	x		x	244		x	x2		296	x	x	x4	x
194	x	x	x2	x	245	x	x			297	x	x	x5	x
195	x	x	x2	x	246	x		x2	x	298	x	x	x1	x
196	x	x	x3	x	247	x		x2	x	299	x	x	x3	x
197				x	248			x3						
198	x	x	x3	x	249	x	x		x	246	175	208	243	
199	x	x	x6	x	250	x	x		x	82%	58%	69%	81%	
200	x	x		x	251	x			x					
201	x		x3	x	252	x			x					

for height, but she is 4.2 inches under the average height for her age. The lax, prominent abdomen, the flaring scapulae, the narrow contracted chest are all part of the typical posture of the malnourished child. She is nine years and two months old, has carious teeth, enlarged tonsils and adenoids, has a poor appetite, drinks coffee and keeps late hours. There are also faulty diet and faulty health habits to overcome.

The table on page 24 indicates the number of related defects found in these 299 children in addition to that of malnutrition. As will be clearly seen, the number of enlarged tonsils and adenoids and other **naso-pharyngeal affections** in 246 children or 82 per cent, corresponds very closely with the total of 299.

Obstruction in the breathing passages causes irregular shallow breathing almost always through the mouth, exhibiting more or less deformity of face and preventing the children from getting sufficient oxygen. Fertile ground is provided for infection and for greater frequency of certain diseases which affect malnutrition. Dr. Thos. D. Wood's description of the appearance of a child with marked adenoid enlargement is as follows and bears out very generally, case after case examined in the Fund Health Clinic. "Mouth open; dull, sleepy with enquiring look; upper lip short and thick; upper jaw narrow; nasal orifices small and pinched; the face full under the eyes; listless and indisposed to physical or mental exertion; stupid and backward in school, from one to two years behind the normal pupil of the same age; undersized." (6).

Defective Hearing is closely associated in many instances with nose and throat trouble. Dr. Wm. R. P. Emerson of Boston says in this connection:—"It is remarkable with what accuracy this condition of naso-pharyngeal obstruction can be diagnosed by the appearance of the ear drums alone". 175 or 58% of the children of this group had ear affections.

In the David Mitchell report, results found did not show a very marked effect of **Carious Teeth** in the percentage of underweight, owing perhaps to the fact that "the numbers (88 children) were too few to lead to any clear-cut conclusion". Mitchell suggests "that there may be very faulty conditions of the teeth without in any way interfering with the chewing surface or supplying sufficient toxins to the system to interfere with the process of digestion". (1). Dr. Emerson, on the other hand, notes the close relationship of both malnutrition and nose and throat defects with the large number of children having carious teeth, the incidence being greater in the malnutrition group (4). In the Fund Clinic group of 1000 children, we found 700 children suffering with diseases of the teeth and gums, a percentage of 70. In the 299 malnourished children we find 208, or 69 per cent, having 898 carious teeth between them, an average of 4 per child. Several mouths were so bad

that the shells of the teeth could be pried out with a tongue depressor. In this group the number of carious teeth varied from one to twelve. While noting the ugliness and the pain, the bad odor and taste, we feel convinced with most students of malnutrition that there is a very definite relationship between ill health, particularly malnutrition, and defective teeth, in spite of the fact that the percentages found in the special malnourished group and in the whole group of children examined are practically identical. Together with the decreased power of thorough mastication due to decay and irregularities, and the toxic effect of pus absorbed directly into the blood or taken into the stomach and intestines, there must be a reflex nervous disturbance due to pain on the impaction of teeth, and there is always the possibility that the decayed teeth may act as a breeding ground and disturbing centre for harmful bacteria. Toothbrush drill was unfamiliar to most of the children examined and very few of the children knew the use of even the "Family" toothbrush, which occasionally was reported. The children themselves rarely grasped the truth of the modern Health proverbs "A tooth in the head is worth ten on a plate", and "A brush in time saves nine!",— and the parents of large families with limited resources find this dental "detail" often insignificant as compared with the more pressing need of clothing the children, feeding them and getting them off to school.

"Free" Dental Clinics are not sufficient in number or sufficiently free to place the need and the opportunity for efficient dental service adequately before the people. Each one of our children suffering from carious teeth or disease of the gums has been given a Hospital Slip to one of the three public dental clinics in Montreal, and where the parents have been really unable to pay for service, the Fund has indicated on the Hospital slip their readiness to undertake this expense. Our records depending on outside cooperation are not complete in these cases, but through the accounts that have come in and the home visits of the nurses we find that many children have received dental treatment up to date. The Hospital Clinics are all overworked and frequently these out-patients wait hours before their turn for attention comes. The Social Service Departments insure a friendly welcome and sympathetic reception which goes a long way towards overcoming the hesitation and reluctance which many people still have in connection with hospital attendance. A need for doctors and social workers who speak French has made itself felt from time to time. The Hospital Superintendents and staffs have endeavoured, in every way, to provide for the large number of children we send them daily, and their interest in our service

and demonstration has been unfailing and friendly in the fullest degree.

Postural defects were found among 243 children of the malnourished group, 81 per cent. The early detection of spinal curvature is of the greatest importance. Bad sitting habits, induced possibly by defective hearing or vision, may in turn induce curvature and round shoulders. Obstruction to respiration causes narrow chest and round shoulders, and such obstruction affects nutrition and thereby lowers the health and powers of resistance of the child. We have been fortunate in being able to send several of our aggravated cases to posture Clinics in two of our hospitals where they have reaped much benefit after attending regularly for the period, usually six to eight weeks, recommended by the Doctor in charge of the clinic.

The postural habits of the **child at school** bear a definite relation to the defects found. Certain tasks are required of the child which induce certain habits, impose certain restrictions and allow certain opportunities, each of which procedures has its own dangers as far as the physical well-being of the child is concerned. A child is taught to read and write. Do the teachers sufficiently appreciate and note eye strain resulting from bad posture? Home study is assigned regardless of home conditions, which make the work of doubtful benefit when done under conditions definitely injurious to health. As Norsworthy and Whitney say:—"The physical child is always involved in all school work and the school tasks imposed on that physical child force responsibility on the teachers of the school for the health and the growth of the children. All those who deal with children must realize the importance of this problem of physical development. So long as they are not alive to its significance, so long as they do not know the facts of child development, so long as they are ignorant of the danger points of the causes of increased susceptibility—just so long will the children both of this generation and the next suffer." (5)

Besides the opportunity for Health instruction in the schools—unrivalled as it is because of the permanency of the group and the regular occasions afforded for Health instruction in Reading and Composition lessons, through the use of films, Health games, nutritional class work, school lunches, domestic science, etc., there is a great opportunity, just beginning to be appreciated, for extended Health Service in our **Children's Institutions**. The permanent group, tragic as it may appear on account of the causes sending children to institutions, has a great deal in its favour from the point of view of group instruction, periodic complete physical examination, weighing and measuring, close observation of gain after physical defects

have been removed, and a careful adjustment of work, rest and play according to the individual needs of the child. A properly trained visiting dietitian or nurse could be used to advantage in this work under the direction of a competent physician by a small group of institutions, with the assured results of turning out children fitter, physically at least, to cope with the calls made upon them in adult life than those found in many an individual home. This service will, I think, be a part of every up-to-date institution's work in the near future. While helping the child to become a healthy, happy, self-supporting and prosperous citizen, committees will be lessening the future charge on the community of thousands of incompetents such as are now to be found in our insane asylums and jails and on our streets. These people constitute a drag, a menace, a waste and a financial burden, and many of them are physically unfit and have been so since childhood. They represent a veritable army of those who never had a Health chance! Institutions doing such Health work will also be furnishing the physical foundation without which educational advantages count for little—"Mens sana in corpore sano" is as true today as it was when a beautiful and healthy body was the aim of the ancient Greeks to harmonize with an equally beautiful and healthy mind.

The greater advantage of the **fixed group** in schools and institutions has been felt by way of contrast in the Clinic follow-up work. The Clinic is not in daily intimate contact with the children and there is no compelling factor to make them come to Clinic or Class. By the very nature of these circumstances we have had to look for our success to the effective service in Clinic and to the educative influence of the nurses in the homes—a far more difficult task, and one which, if done thoroughly, would require a large staff of nurses or Health visitors. For this reason—the lack of a fixed group to work with—we recognize that our **Nutritional Class** as such, has been a partial success only. The Head Nurse, who is employed by the Fund from the Victorian order of Nurses, was sent in January 1920 to take a two weeks' Nutrition Course under Dr. Emerson in Boston, and profited greatly by the experience. On her return she instituted a Nutrition Class composed of twenty to twenty-five of the worst cases in our large group of 299. The children's diet was carefully observed, their defects removed, new health habits formed, while special stress was laid on rest periods and extra lunches. Some of the children were taken from school in order to be able to fulfil the rules imposed. Encouraging progress was noted in these as in many of our non-class children. Had the nurse been able to spend most of her time in looking after this group, or had the group been more regular in attendance, they might,

doubtless, all have gone "over the top" of their normal weight line as illustrated in the individual chart presented, which shows the progress made from week to week by one of the class.

The child of page 31 was described by his mother as being "always delicate and sickly". He was in third grade only and found even the work demanded in that early grade a burden. He had enlarged tonsils, adenoids, alveolar abscesses, three carious teeth, otitis media and conjunctivitis. He slept with a sickly adult in a room with windows closed — drank coffee and remained up until 10 P.M. These conditions were corrected and changed. The child has grown one inch, and has gone above his normal weight for height. His school work also is no longer a burden to him. (See his record form, page 8).

In view of the relative non-success of our nutritional class and also of our stressing the greater value of home visiting, it is of interest to read the findings of B. B. Burritt of the New York Association for Improving the Condition of the Poor, who reported on the results of an intensive attack on Malnutrition made recently by the Association. Mr. Burritt says, "As a result of the work carried on thus far, the author feels that a nutrition class or clinic while very useful in the attack on Malnutrition, is only an incidental feature, and that the campaign if it is really to be preventive in character must be made on a group of children who are too young for the class method of treatment, and that the chief emphasis must be placed on the home." (9)

In closing this section of the report, I quote in part, the stimulating words on the subject of Child Health of Mr. Herbert Hoover in his address at the eleventh annual meeting of the American Child Hygiene Association, held last October in St. Louis. Mr. Hoover said:—"Any study of the nutritional problem for children in the city quickly divides itself into malnutrition due to poverty and that due to ignorance on the part of the parents..... We have accepted the fact that we cannot as a nation rely for the upbuilding of the race upon the initiative of the parents alone—We, every one of us, pay the price in our jails, in our poorhouses, in our hospitals, in the loss of our economic efficiency, — the fertile ground that we furnish for all the social patent medicines, — for our failure to have grasped the entire problem of child development, not only intellectual but physical as well... After children have arrived at school age, we have opportunity to correct malnutrition due to ignorance or misfortune by providing at least one meal a day in schools of those sections that need it. This has a warrant not in charity but in insurance to the whole community against the deficiencies in health and mind of our population in the years to come."

Age: 14½

Grade: III

Height: 61.4 in.

Weight: 87.5 lbs

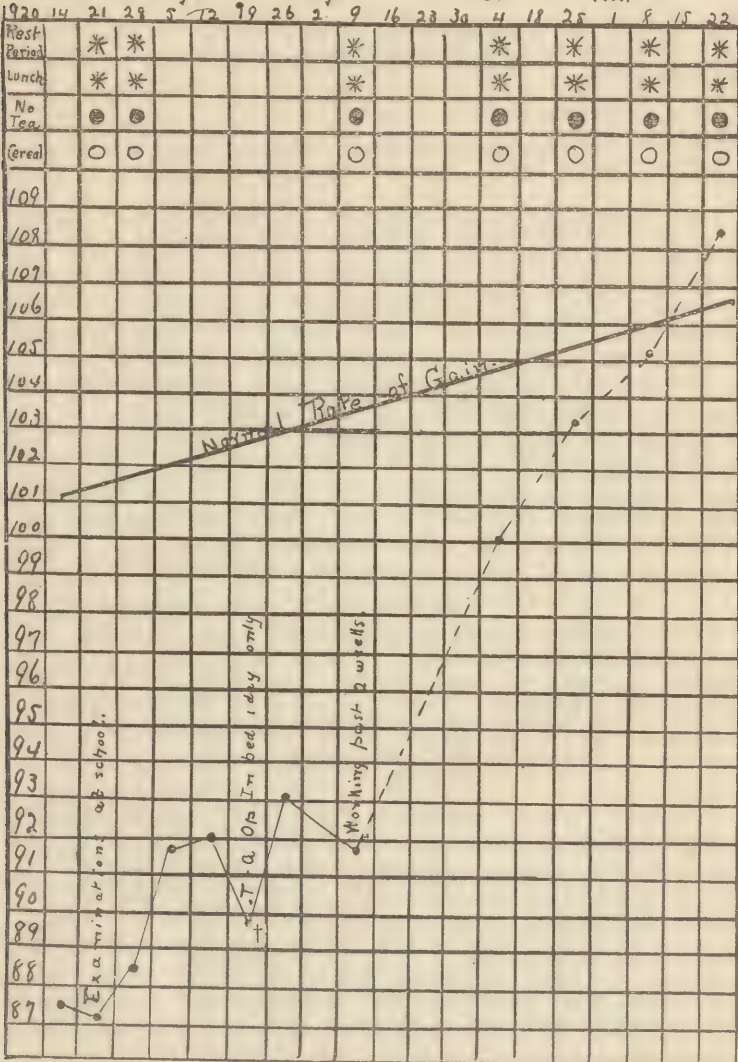
Urban S.

100.9 lbs. Normal weight

13.4 " Underweight

13% " for height

Oct. Nov.



† Tonsil and Adenoid operation.

PART IV.

"To make growth more perfect,
life more vigorous, decay less rapid
and death more remote."

THE SOCIAL BACKGROUND

The question of **Housing** bears heavily on our ex-soldier population as it does on the whole people of Canada. There are One Hundred and Twenty Thousand (120,000) houses in the City of Montreal to accommodate a population of approximately Six Hundred and Forty Thousand (640,000) people. (Suburbs not included), (1918 City Hall Report).

Of the 532 families bringing their 1000 children to the Patriotic Fund Health Clinic during the year, we have no records from 30 as to the number of **Rooms or Houses rented**. Of the remaining 502 families we find the largest number, the median, using 4 rooms, the average being 4 plus for all the families. The greatest number of rooms in any house was 9 and the lowest 1. Thirty-one families were living in 1 room each, a total of 102 people; 14 of these families had 3 members, 6 had 4 and 4 had 5 persons living in one room. Nineteen families were living in 2 rooms, a total of 82 persons. Two of these families had each 8 members, one had 6 persons and five had 5 in each family. We had 40 families with 7 members; 26 with eight; 14 with 9; 6 with 10; 3 with 11; 1 with 12; and 1 with 14. The family of 14 lived in 6 rooms. The family of 12 and two families of 11 lived each in 7 rooms, one family of 11 living in 5 rooms.

We are told by our City Sanitary Engineer that of the 120,000 houses in Montreal only 12.5 per cent are occupied by their owners. In one district (Notre Dame de Grace) 37% of the owners occupy their houses. The average density of the city population is 21 inhabitants to the acre. In St. Louis ward we have a density of 141 persons per acre. We find that there are in Montreal proper 5.3 persons per house. In 1907 there were 3.7—New York has a density of 15.6 persons per house, Boston 9.2, Cambridge 7.2 and Los Angeles 4.6.

While overcrowding bears an important relation to mortality and morbidity rates, other causal factors, such as poverty and ignorance, contribute even more directly to community death and disease. In this connection we note that, despite its scattered population, Ahuntsic-Bordeaux ward with only three

persons to the acre has the largest mortality in the city—20.2, while St. Louis Ward, the most densely populated, has a mortality of 12.5 (10). The story of overcrowding, however, emphasizes the health and moral handicaps under which so many of our people are living. Even with a comfortable income, many of our soldier's families have suffered on this account more or less consciously through a certain lowering of health habits and of standards of decency which is bound to tell in time on the growing and receptive children in the home.

Only 9 of the 532 families owned their homes. Uncertain industrial conditions with a moving industrial population, the unsettling effect of the war, together with the cost of living may be responsible for this, but there does not seem to be the same attachment to the owned home here as there is in the Old Country, in spite of the fact that the largest number of our children were registered as children of English and Scottish parentage.

Forty-two families gave no record of **Rent**; five lived rent free in exchange for services rendered. Of the remaining 485 families we get an average monthly rental of \$12.82 with a median of \$10.00 in the first group of families which rose steadily through each succeeding group of 100 children, till for the tenth group we registered an average rental of \$14.20 with a median of \$15.00. The lowest rent was \$3.50 (for one room) and the highest \$40.00. These are all rather below the average though ever-increasing rentals quoted in the "Labour Gazette" during the year 1919-20, when these families brought their children to clinic (page 34). It must be remembered, however, that the average accommodation quoted in the "Labour Gazette" is a six-roomed house, while the average accommodation for our families was 4 plus rooms. In very many instances, the neighbourhood and condition of the houses left much to be desired in the way of light, back yards, household conveniences, etc., all of which bear directly on the health, social, mental and physical, of the children.

122 of the families did not report their **Income**. Of the remaining 410 families we have a record of as low as \$10.00 monthly and as high as \$175.00. The income of this group of ex-soldiers' families was a most uncertain quality, due largely and directly to the effects of the war. Some of the ex-soldiers and widows were on pension, total or part, according to the degree of disability or to death due to service; some of them were on pay and allowances, if the ex-soldiers were taking treatment or training under the Soldiers' Civil Re-Establishment Department. Other men, who were getting treatment, were not on pay and allowances as the disability from which they suffered could not be traced to war service; the Patriotic Fund, in these cases, carried the families on a generous budget.

AVERAGE RENT OF SIX-ROOMED HOUSES IN MONTREAL
QUOTED FROM LABOUR GAZETTE OF THE
LABOUR DEPARTMENT, OTTAWA

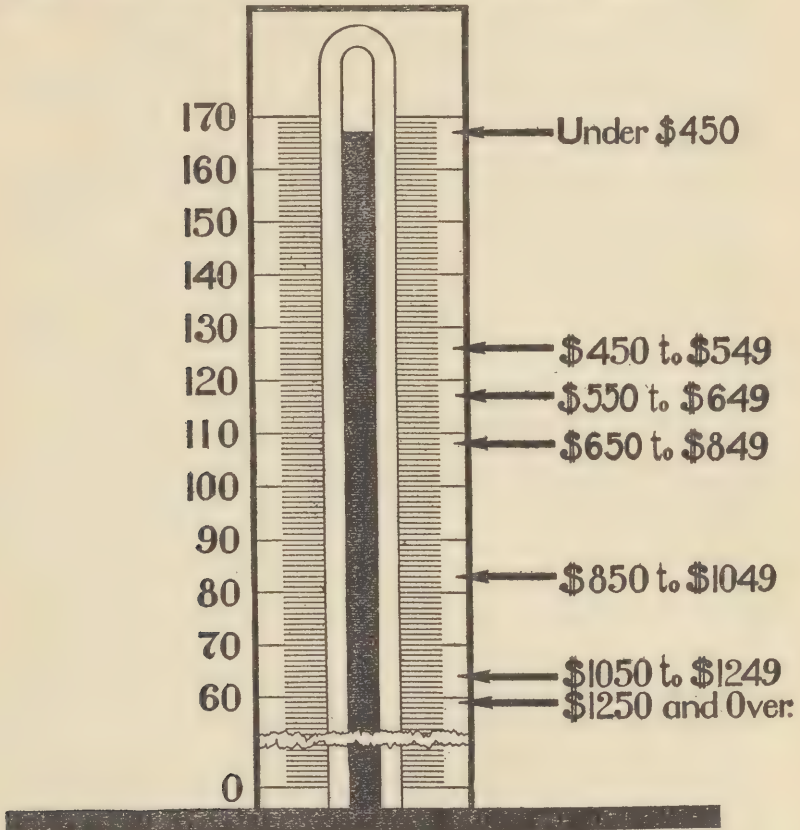
	With conveniences	Without conveniences
1919		
October	\$14.00 to \$18.00	\$12.00 to \$13.00
November	14.00 to 18.00	12.00 to 13.00
December	14.00 to 18.00	12.00 to 13.00
1920		
January	\$14.00 to \$18.00	\$12.00 to \$13.00
February	14.00 to 18.00	12.00 to 13.00
March.....	14.00 to 18.00	12.00 to 13.00
April.....	14.00 to 18.00	12.00 to 13.00
May	14.00 to 18.00	12.00 to 13.00
June.....	18.00 to 25.00	13.00 to 18.00
July.....	18.00 to 33.00	13.00 to 18.00
August	18.00 to 25.00	13.00 to 18.00
September.....	18.00 to 25.00	13.00 to 20.00
October	18.00 to 25.00	13.00 to 18.00

Many ex-soldiers, out of work, were doing odd jobs and not earning a living wage for themselves or for their families. Many of the women did not know what their men earned. The uncertainty of the times, war restlessness, strikes, lockouts, poor home management, loafing, illness and mental defect were all immediate causes for the irregularity or absence of income in many of the homes, the economic factor bearing directly on the health of the whole family and particularly on that of the children. If there was not enough food to go round, the wage earner would, more often than not, get first share in order to keep up his strength, and the children would go hungry, or mothers would take work outside the home with the consequent danger of neglect of the children. One need only refer to the startling studies made by the Child Labour Bureau, Washington, (2), to learn in a convincing way how infantile mortality increases as the income goes down, and as women go out to work to supplement the insufficient earnings of the home. (See Chart, page 35). Continued low incomes furnish a sure index of a high death rate and of lowered vitality and increased ill health particularly among children.

Schemes for Unemployment Insurance, some forms of which are in force in a few private business concerns, in many Labour Unions and as Government measures in twelve European countries (11), are linked up definitely with the social and

INFANT MORTALITY RATES, ACCORDING TO FATHERS' EARNINGS.

COMBINED FIGURES FROM SEVEN CITIES STUDIED BY U. S. CHILDREN'S BUREAU.



**The baby death rate rises
as the fathers' earnings' fall.**

CHILDREN'S BUREAU, U. S. DEPARTMENT OF LABOR.

industrial changes now going on in Canada and in the rest of the world. The Canadian Governments—Federal, Provincial or local—have not formulated any plans as yet covering insurance for ill health and old age, nor have they made any attempt to cope with the problem of unemployment, which promises to assume acute proportions, both seasonal and cyclical, in the not distant future. It is true that a very splendid Federal Insurance provision is now

working for all ex-soldiers and their dependents, that our Canadian Pensions are the most generous in the world, and that the placement systems of both the Soldiers' Civil Reestablishment Department and the Employment Service of Canada are admirable in their plan and efficiency,—but these aids, to minimize the effects of the war and the present lack of work, do not actually meet the problem of unemployment, and no placement system can cover the demands for work when factories close down and hands are turned off by the hundreds and thousands and no work is to be had. General industrial depression reacts directly on the Health of the people and particularly on that of the children. If we are ever to be an A. 1, nation physically, we must take speedy measures, governmental and voluntary, to prevent our deteriorating into a Class-3 population. Unemployment, for nine tenths of the people, spells poverty. Poverty is father of ill health. Poverty and ill health in their vicious circle mean national unrest and danger. The present situation offers an opportunity to lay the foundations for the establishment of the means for handling the problem of unemployment not only in the present but in the future. We can no longer afford to take for granted the seasonal and cyclical recurrences of business depression. We should make organized effort to anticipate these conditions, and to minimize by every sound social means in our power the hardship, suffering and ill health they inevitably cause. In this way only can we surely build the health foundation on which the wealth and happiness of our people ultimately depend.

The incidence of defects according to Nationality (table on page 37) varies from 5.2 in the small group of Belgian children (9) to 7.1 in the Italians. The largest groups, English, English-Canadian and French-Canadian, vary little from 6.3 to 6.4 and 6.7 respectively. The third column indicates the **total number of children living** in the family groups and the fourth the number **dead**. The succeeding columns, showing the number of **miscarriages** and **still-births**, are away below the actual facts, as the records here were incomplete, the importance of obtaining this special information not being realized by an early recorder. The data, however, together with the number of **previous diseases (2561)** indicates the great field for preventive health work and lifesaving service that lies open to all Child Health workers on every hand. There is no strong evidence that children of any special race are more susceptible to special diseases than are other children. Racial or age predisposition to disease often really resolves itself into increased opportunities for infection, and lessened resistance because of unsanitary homes or insufficient food, etc.

NATIONALITY

	Families	Total number children examined	Number of children living	Number of children dead	Miscarriages	Still-births	Father dead	Mother dead	Both parents dead	Father ill	Mother ill	Number of previous diseases	Number of present defects	% Defects
English.....	205	418	668	107	42	16	36	5	0	60	33	1113	2643	6.3
Scotch.....	61	114	164	30	5	4	14	2	1	20	9	290	664	5.6
Irish.....	15	28	54	18	4	0	5	0	0	6	4	71	178	6.4
Welsh.....	4	9	18	3	2	0	1	0	0	1	2	20	56	6.1
English Canadian....	76	120	236	41	13	3	12	4	2	23	11	316	770	6.4
French Canadian....	107	212	333	129	47	11	19	3	0	52	38	527	1429	6.7
French Reservist....	15	26	33	13	1	0	6	0	1	3	0	70	175	6.7
Belgian Reservist....	7	9	12	2	4	0	1	0	0	3	1	22	47	5.2
Italian Reservist....	24	38	55	23	5	0	4	1	0	4	6	74	272	7.1
Miscellaneous.....	18	26	57	9	0	0	4	2	0	5	1	58	170	6.5
Totals.....	532	1000	1630	375	123	34	102	17	4	177	105	2561	6404	

School inspection of an adequate character, where an ample budget provides a sufficient staff of doctors and nurses, and where these public servants have high-class training, might have prevented a large number of previous diseases (2561) and present defects (6404) from which our children of school age suffered together with the runabout children of from two to five years.

Warm lunches in schools are now being given in over 90 cities and in 21 States of the United States as well as in some rural schools in 9 States. If these were provided more generally in selected Canadian schools, an immediate improvement should be noticed in the health and mental alertness of the pupils. **Open air classes** and **organized athletics** and recreation give definite returns in health. Children who are malnourished and those who have had bad postural habits regain their tone and condition, both mental and physical, when attention is regularly paid to these important health factors.

There can be no doubt as to the salutary effect of **prenatal**

work on the Health of early infancy and of mothers in child-birth. Wherever any intensive work has been done, as in New Zealand, England, New York and Boston, clearcut results have been obtained, the mortality being reduced more than one-half. Montreal has a long way to go in reducing its infantile mortality which, in 1918, stood at 191.5 per 1000 births.

With proper **prenatal care**, breast feeding and efficient medical and nursing attention at the time of confinement, many deaths of children (375), many miscarriages and stillbirths (157), and many deaths (17) and illnesses of mothers (105) might have been prevented.

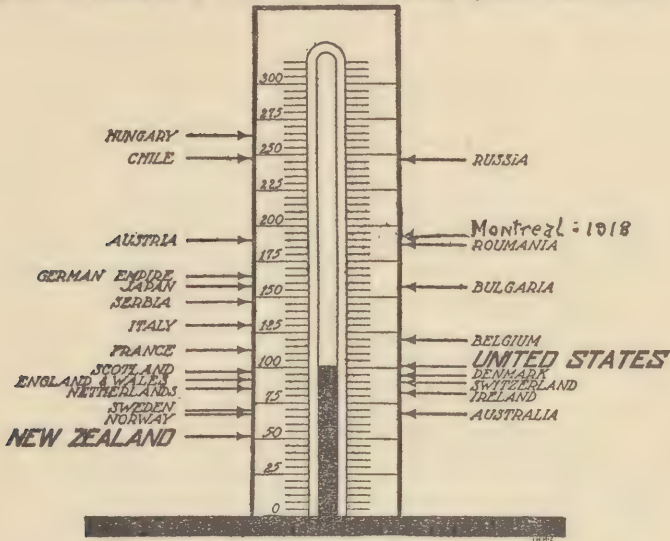
With frequent and regular medical and nursing inspection in the Home, at Health Centres and Baby Welfare Clinics, the babies and pre-school children of this group need not have suffered from so many preventable previous diseases (2561). (See Chart, page 39).

The large number of **fathers dead** (102) and **ill** (187) suggests the effects of the war on these families through the temporary or permanent loss of the breadwinner. The financial difficulty has been partly met in many cases by Government provision of Pension or Allowance, or by allowances from the Patriotic Fund. All ex-soldier fathers in ill health and out of work, however, are not entitled to Pension or treatment unless their disability can be traced to War Service. In these cases a percentage allowance from the Fund based on the percentage of the non-pensionable disability, 25 to 50 or 75 per cent as the case may be, is not enough to cover the family needs and to ensure the maintenance of Health. The problem, economic and social, of the **sub-standard** man not on pension and not drawing Unemployment or Health Insurance is one that will have to be faced in the near future. These men are not wanted in industry where they clog the wheels of production. If they are to maintain their 50 or 75 per cent health standard, they are able to produce in part time only. Part time and light jobs are few and far between. Wives and children cannot be supported on them. Unless some form of **subsidized workshops** or Insurance is soon developed to cover the needs of these worthy, self-respecting and suffering people, we are going to multiply the numbers of our paupers, fill our institutions with non-productive charges and fail signally in preventive work along Child Welfare and other lines.

Homes broken by the loss of the **mother** (17) or handicapped by the mother's serious illness (105) form an even more serious social problem from the point of view of the children's health, if they are not so serious from the angle of family income as are the homes suffering from the loss of the breadwinning father. In the case of death or serious illness on the part of the mother, no financial subsidy can make up

INFANT MORTALITY THERMOMETER.

DEATHS UNDER 1 YEAR OF AGE PER 1,000 BIRTHS.



NEW ZEALAND LOSES FEWER BABIES THAN ANY OTHER COUNTRY.

RATES ARE FOR LATEST AVAILABLE YEARS UP TO 1916.

CHILDREN'S BUREAU, U.S. DEPARTMENT OF LABOR.

for the loss of all that constitutes a mother's thoughtful, loving, patient care of her children. Preventive health work for the children's sake as well as for the sake of the mothers must, therefore, reach back to the last generation as well as forward to the next. It must be as broad as the health needs of Humanity, the humanity of the present and the future, and as intensive as opportunity and the child and man and woman will afford! In this way, and in this way only, will the race, marching forward on the feet of little children, carry with it a vision of the Nations beautiful, strong and healthy which are to be!

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